

BIOSPHERIC SCIENCES BRANCH HIGHLIGHTS  
March - April 2008

- SCIENCE POLICY AND TEAM MEETINGS, WORKSHOPS

**\*\* Xiong gives presentation on MODIS at GMU**

Jack Xiong (614.4) gave an invited presentation, "An Overview of MODIS On-orbit Calibration and Characterization", at George Mason University's Colloquium in Earth System & Geoinformation Sciences, March 19, 2008.

**\*\* NASA Vegetation 3-D Structure and Biomass Workshop held**

The NASA Vegetation 3-D Structure and Biomass Workshop was held in Charlottesville, Virginia at the University of Virginia March 3-5th. The purpose of the workshop was to "Define Science and Measurement Requirements for Future Spaceborne Missions". The focus of the workshop was on the DESDynI mission. DESDynI consists of a Multi-beam 25 m footprint waveform Lidar and an L-band Interferometric SAR. DESDynI is one of the top 4 priority Earth Science missions for NASA as recommended by the NRC Decadal Survey. GSFC is leading the Multi-beam Laser Altimeter portion of the DESDynI mission. Over 100 scientists and remote sensing experts gathered to discuss the science application of DESDynI to the Global Carbon Cycle, Climate Models, Ecosystem Structure, and Habitat and Biodiversity. The workshop was held to discuss, agree to, and document the science measurement requirements for the Lidar and radar instruments to permit the detailed mission design to commence. Numerous talks and breakout sessions were held to facilitate the development of the mission measurement requirements. Jon Ranson (614.4) and Bryan Blair (694) are members of the Workshop Organizing Committee and are now actively involved in writing the workshop report, writing an overview paper for publication, and organizing a special journal issue on the workshop talks and science planning activities. Community convergence on the detailed measurement requirements for the Vegetation Structure portion of DESDynI is a major accomplishment that will facilitate the development of the detailed mission design, cost, and schedule. Details of the workshop can be found at <http://www.veg3dbiomass.org/>.

**\*\* Biospheric Science Branch members attend annual meeting of the Canadian Carbon Program**

Several Code 614.4 branch members/affiliates traveled to Calgary to attend the 2.5-day annual meeting of the Canadian Carbon Program (Friday-Sunday, March 14-16). The Canadian Carbon Program (CCP) is chaired by the Branch's research associate, Dr. Hank Margolis (Laval U., Quebec City, Quebec). The CCP was initiated following five years as the Fluxnet-Canada program. The 2008 annual meeting held in Calgary, Alberta served as the first CCP general annual meeting. Several scientists from 614.4 are actively involved with projects using data from the CCP network. Attendees from Code 614.4 included Drs. Jeff Masek and

Forrest Hall, who gave invited presentations, Elizabeth Middleton (poster), and Fred Huemmrich.

- FUNDED RESEARCH

**\*\* Anyamba presents at International Conference on Emerging Infectious Diseases**

Assaf Anyamba (Code 614.4/GEST/UMBC) & collaborators presented at the 2008 International Conference on Emerging Infectious Diseases (ICEID), March 16-19, 2008, Atlanta, Georgia.

1. Forecast and Outbreak of Rift Valley Fever in Sudan 2007 (International Surveillance Session)
2. Forecast and Validation of the Rift Valley Fever Outbreak in East Africa: 2006-2007 (Surveillance: International and New Strategies Poster Session)

Held discussions with Dr. Pierre Formenty (World Health Organization: The Global Outbreak Alert and Response Network (GOARN) and Dr. Stephane de la Rocque (Food and Agricultural Organization (FAO) of the United Nations: Animal Health Service) on developing direct research and applications development collaboration.

ICEID is organized by Centers for Disease Control and Prevention (CDC), Council of State and Territorial Epidemiologists (CSTE), Association of Public Health Laboratories (APHL), World Health Organization (WHO) and the American Society for Microbiology (ASM).

**\*\* Landsat E/PO staff involved in many activities**

Landsat E/PO staff presented two papers at the Association of American Geographers annual conference in Boston on April 18. Laura Rocchio, Code 614.4/SSAI presented, "Landsat & the Chesapeake: Protecting our Nation's Largest Estuary and Our Way of Life," and Jeannie Allen presented 'Integrated Geospatial Education and Technology Training (iGETT)," describing this workforce development effort. Both also served on a panel about the project with iGETT participants.

On Earth Day, Landsat E/PO released the feature story: "Landsat's Role in Chesapeake Bay Management." This article, written by Laura Rocchio, is the culmination of four months of information gathering (article reviews, report reading, interviews, etc.) on the subject.

[http://landsat.gsfc.nasa.gov/news/news-archive/soc\\_0017.html](http://landsat.gsfc.nasa.gov/news/news-archive/soc_0017.html)

Rocchio also wrote a simplified version of the feature article for PAO, who used it in the HQ PAO press release: "An Earth Day Perspective: NASA Satellites Aid in Chesapeake Bay Recovery."

<http://www.nasa.gov/topics/earth/features/chesapeake.html>

On Earth Day, the Science Visualization Studio also released their long awaited animated tour of the Chesapeake, an effort that was informed by participation of Landsat E/PO and Goddard PAO, as well as input from partners in the Chesapeake Bay Program Office and the Chesapeake Bay Gateways Network.

<http://svs.gsfc.nasa.gov/search/Series/ChesapeakeBay.html>

Landsat E/PO Anita Davis, Code 614.4/SSAI, received funding to conduct a one-week professional development workshop for informal educators in Spring of 2009. The workshop will target National Park Rangers, and focus on Goddard's contribution to research in Climate Change, Comparative Planetology, and Heliophysics. Funding stems from a proposal to NASA HQ as partial fulfillment of congressionally directed spending for Goddard's Visitor Center. The workshop will help extend and sustain the ongoing partnership between NASA and NPS education.

## **\*\* Brown presents at two conferences in England**

On April 1, 2008 Molly Brown, Code 614.4/SSAI, gave an invited talk to the Institute of Zoology at the Zoological Society of London, England, entitled 'Earth Observations and Models for Earlier Famine Early Warning'.

She was also a session Convener at an international conference entitled 'Food Security and Environmental Change' held on April 2-4, 2008 in Oxford, England. The session was entitled 'Improving climate forecasting for food security research'. More info can be found at [www.foodsecurity.elsevier.com](http://www.foodsecurity.elsevier.com)

<<http://www.foodsecurity.elsevier.com/>>

- SIGNIFICANT ACTIVITIES

**\*\* Update of Integrated Geospatial Education and Technology Training three-year project funded by the National Science Foundation**

Integrated Geospatial Education and Technology Training (iGETT) is a three-year project funded largely by the National Science Foundation. Participants constitute two cohorts of 20 faculty each. Cohort 1 participants are currently working on Learning Units that incorporate federal land remote sensing data into their teaching programs. iGETT staff received 45 applications for Cohort 2 and made final selections on March 15. Cohorts 1 and 2 participants come from Maine, New York, Virginia, North Carolina, Kentucky, Mississippi, Iowa, Illinois, Michigan, Minnesota, North Dakota, Texas, New Mexico, Arizona, California, and Oregon.

**\*\* Bureau of Indian Education, Bureau of Indian Affairs, and Education officers and principals visit GSFC**

The Chief Information Officer of the Bureau of Indian Affairs, Sanjeev (Sonny) Bhagowalia; the Acting Director of Bureau of Indian Education (BIE), Kevin Skenandore; and 14 Education Line Officers and school principals visited GSFC on March 13 for a day of discussions with Education Office staff and mission-based GSFC educators to shape an interagency long-term partnership. BIA/BIE visitors saw demonstrations of GSFC's Science Visualization Studio, Science on a Sphere; and Earth and Heliophysics education resources. Each school principal received a binder of K-12 Landsat education resources.

**\*\* Brown de Colstoun session chair for National Conference of the National Science Teachers Association**

Eric Brown de Colstoun (SSAI/Code 614.4) presided over a presentation session at the recent 2008 National Conference of the National Science Teachers Association (NSTA) in Boston MA. He also presented a talk entitled "Landsat: Helping Students and Educators Keep an Eye on the Pulse of the Planet" where he highlighted many of the Landsat educational activities and data sets that are available to them for use in their classrooms. The NSTA National Conference is a very large conference (>15000 attendees) bringing together educators from the entire nation to learn about the state-of-the-art in teaching tools/materials but also for professional development.

**\*\* Brown de Colstoun mentors winner at the 2007/2008 Prince George's Area Science Fair**

Brandon Sanders, a senior at Eleanor Roosevelt High School, recently won a "Best Presentation" Award and 1st place in the "Earth and Planetary Sciences" section at the 2007/2008 Prince George's Area Science Fair in Largo MD for his poster entitled "Comparison of Landsat Satellite Tree Cover with Ground Truth". Brandon is being mentored in his Senior Project by Eric Brown de Colstoun (SSAI/Code

614.4), where they have been comparing Landsat estimates of % tree cover with ground measurements they made at GSFC and surrounding area.